REMARKS

Claims 1-12, 21-36 and 49-57 are pending in the application. In the Office Action at hand, Claims 1-12, 21-36 and 49-57 are rejected.

In particular, Claims 1, 2, 4-6, 9, 21-24, 28-30, 33, 49-52 and 54-57 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cornell. In addition, Claims 3, 26 and 27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cornell. Claims 7, 10, 11, 31, 34 and 35 are rejected under Section 103(a) as being unpatentable over Cornell in view of David. Also Claims 8 and 32 are rejected under Section 103(a) as being unpatentable over Cornell in view of David and Watson. Furthermore, Claims 12 and 36 are rejected under Section 103(a) as being unpatentable over Cornell in view of Hsia. Finally, Claims 25 and 53 are rejected under Section 103(a) as being unpatentable in view of Chapman. In response to the Section 102(b) and 103(a) rejections, the Applicant respectfully submits that Claims 1-12, 21-36 and 49-57, as amended, are neither anticipated nor obvious in view of the Cornell, David, Watson, Hsia and Chapman references. Reconsideration is respectfully requested.

Claim 1, as amended, recites a plastic article including a first plastic portion having a series of protrusions extending therefrom and adjacent to each other. A second plastic portion is molded between and over the protrusions of the first plastic portion, thereby forming a projecting protuberance on the plastic article having a desired profile. *At least some of the protrusions extend into locations of the protuberance that are projected from the plastic article.*

Claim 21, as amended, is a method claim that generally parallels Claim 1, as amended. Claim 50, as amended, differs from Claim 1, as amended, by reciting "a second plastic portion extending between and over the protrusions of the first plastic portion", and Claim 54, as amended, is a method claim that generally parallels Claim 50, as amended. Finally, Claim 53, as amended, differs from Claim 21, as amended, by reciting further narrowing limitations.

Claims 1, 21, 50, 53 and 54 have been amended to recite "a projecting protuberance on the plastic article having (or of) a desired profile, *at least some of the protrusions extending into locations of the protuberance that are projected from the plastic article*". Support for these amendments is found at least in FIGs. 2, 3, 5 and 11-15 as well as on page 5, lines 8-17, page 6, lines 1-24, page 7, lines 7-15, and page 10, line 16 through page 12, line 3, of the Specification as originally filed. No new matter is introduced.

In the present invention, articles such as flower pots, chairs, tables, etc., can be made out of plastic and include features with projecting thickened protuberances that have a realistic size and resemblance to similar thickened protuberances found on articles that are formed out of conventional materials. Such features can be, for example, the thickened rim of terra cotta flower pots and particular thickened features on chairs and tables traditionally made of wood or metal. Some examples of projecting thickened protuberances in the present invention are shown in the figures, such as the end collar rim 8 of flower pot 2 in FIG. 3, the protuberance 36 of column 30 in FIG. 11, the protuberance 41 of chair arm 40 in FIGs. 12 and 13, the protuberance 46 on furniture structure 38 in FIG. 14, and the protuberances 52a/52b of furniture structure 50 in FIG. 15.

FIGs. 1-3 depict an example of an embodiment where the plastic article is a flower pot 2 and the first plastic portion is an inner pot portion 1, with the series of protrusions being fins 7 of a fin structure 11. The second plastic portion is an outer pot portion 10. The outer pot portion 10 is molded between the spaces 7a of the fins 7 as well as over the fins 7 to form a projecting protuberance that is the thickened rim 8 of the flower pot 2, and is of realistic size, with the fins 7 having a height sufficient to extend into locations of the protuberance that are projected outwardly from the pot. In this embodiment, the fin structure 11 having fins 7 of such height allows a large flower pot 2 to be injection molded in a commercially viable manner while at the same time having a projecting thickened peripheral rim 8 at the upper edge that has the realistic size, and therefore appearance, of a projecting rim on a terra cotta pot. If such a projecting realistically sized thickened peripheral rim 8 were to be molded in a single injection molding process with the thickness T (FIGs. 2 and 3) being of the magnitude shown, the rim 8 would contain too great a volume of molten plastic to be able to cool properly or quickly enough for viable manufacturing in such a manner.

For example, in the embodiment of the flower pot 2, the fins 7 can be configured to provide a high surface area to thickness ratio which allows rapid cooling and eliminate the existence of a large thick volume of molten plastic which inherently has a low surface area to thickness ratio and cools slowly. The series of these fins 7 can radiate heat from the molded inner pot portion 1 and provide cooling in a manner similar to a radiator. With fins 7 extending into and occupying locations of the rim 8 that are projected from the pot 2, the fin structure 11

can form approximately half the structure and material for the rim 8. As a result, about half the projecting protuberance or rim 8 can be formed at the same time the inner pot portion 1 is formed. The second half of the projecting protuberance or rim 8 is formed at the time the outer pot portion 10 is formed. When the outer pot portion 10 is molded over the inner pot portion 1, an outer layer of plastic 8a covers the fin structure 11 as well as occupying or penetrating the spaces 7a between the fins 7. The plastic material of the outer pot portion 10 extends between and over the fins 7 of the fin structure 11 so that the combination of the fins 7 of fin structure 11 and the plastic of outer portion 10 combine to form a solid unitary thickened protuberance or rim 8 that projects from the pot 2. The second molding process in the area of the rim 8 molds plastic material in a form that is approximately the reverse of the fin structure 11 and is also in a configuration for having a rapid cooling speed. By forming the projecting protuberance or rim 8 in two molding processes, the amount and thickness of molten plastic that needs to cool at one particular moment is limited so that cooling can occur in an acceptable amount of time.

In contrast, Cornell discloses in FIG. 9 a plastic container 11 having two layers 17 and 17', such as a blow molded bottle, with a threaded mouth area 18. The two layers 17 and 17' are connected to each other by microweld positions formed by protrusions 22 on the surface of one layer 17, which engage complementary depressions 23 on the surface of the other layer 17'. The purpose of the protrusions is to prevent delamination of the two layers 17 and 17' from each other. Referring to FIGs. 2a-2c and page 14 of Cornell, a method of forming the two layers is disclosed where protrusions 5 on a blank 2 (FIG. 2b) are heated and plasticized, and then a second layer 6 is formed over the blank 2 which conforms to the outer surface of the blank 2 and melts in the region of the protrusions. The two layers in Cornell are shown as being of equal thicknesses and it can be seen in the figures of Cornell that the protrusions are completely covered by the second layer, and therefore, cannot project from the article as part of a protuberance. This is further illustrated on page 12 of Cornell, which describes the thickness of blank 2 as being 2.5 mm (.098 inches) and the protrusions 5 being only .75 mm high (.03 inches). Although page 8 contemplates longer protrusions, these protrusions only have a height (Z dimension) of 1.5 mm (.06 inches) so that the protrusions in Cornell are not long enough to extend through a second layer of equal thickness to the first layer (2.5 mm) and project from the article. Referring back to FIG. 9, although protrusions 22 are shown in some places extending

slightly in the same direction as the thread forms of the mouth area 18, the protrusions 22 do not extend past the second layer 17' and do not project from the container. Consequently, the thread form and annular ring structure at the mouth area 18 of the container 11 are formed only by material of the second layer 17' and do not include projecting portions from the first layer 17. As a result, Cornell is not suitable for forming large projecting thickened structures such as the projecting rim 8 shown in FIGs. 1-3 of the present application because attempting to form such a rim according to the teachings of Cornell would result in a rim made entirely from the second layer 17', and take too long to cool for viable manufacturing. In addition, it can be seen that the protrusions 22 in Cornell are not contoured to provide a general approximation of the profile of the projecting protuberance because the configuration of the protrusions in the mouth area 18 is no different than over the rest of the container.

Accordingly, Claims 1, 2, 4-6, 9, 21-24, 28-30, 33, 49-52 and 54-57, as amended, are not anticipated by Cornell since Cornell does not teach or suggest "a projecting protuberance on the plastic article having (or of) a desired profile, at least some of *the protrusions extending into locations of the protuberance that are projected from the plastic article*", as recited in independent Claims 1, 21, 50, 53 and 54, as amended. In addition, Cornell does not teach or suggest "the protrusions extending from the first plastic portion are contoured to provide a general approximation of the desired profile of the protuberance", as recited in Claim 2, or "the protuberance is unitary and thickened", as recited in Claim 51, or "forming an unitary thickened protuberance", as recited in Claims 55 and 57. Therefore, Claims 1, 2, 4-6, 9, 21-24, 28-30, 33, 49-52 and 54-57, as amended, are in condition for allowance. Reconsideration is respectfully requested.

In view of the above discussion, Claims 3, 26 and 27 are also not obvious in view of Cornell. Furthermore, Cornell does not teach or suggest "contouring the protrusions to provide a general approximation of the desired profile of the protuberance", as recited in Claim 26. Therefore, Claims 3, 26 and 27 are in condition for allowance. Reconsideration is respectfully requested.

David discloses a flower pot with a rigid injection molded inner pot 2 and a blow molded outer shell 3 which are assembled together while still hot so that shrinkage of the materials fixes them together. Referring to FIG. 5, the inner pot 2 has a rim 2d with a single groove 2e. The

outer shell 3 has an inward facing collar 3d which engages only partway into the groove 2e and extends radially outwardly away from the rim 2d. The collar 3d connects the outer shell 3 to the inner pot 2 in a manner where the walls are spaced apart. The inner pot 2 has vertical ribs 2m which extend within this space. The collar 3d of the outer shell 3 in David is not molded between and over the rim 2d of the inner pot 2 or the vertical ribs 2m to form a protuberance. Instead, the collar 3d extends radially outward from the groove 2e and rim 2d without extending over the protrusions of the rim 2d. Any protuberance of the flower pot is formed by the contour of the hollow wall of the outer shell 3 and not by the combination of the shape of the rim 2d or vertical ribs 2m and the collar 3d or outer shell 3.

Accordingly, Claims 7, 10, 11, 31, 34 and 35 are not obvious in view of Cornell and David since neither reference teaches or suggests, alone or in combination, a second plastic portion molded "between and over the protrusions of the first plastic portion" to form "a projecting protuberance on the plastic article having (or of) a desired profile, at least some of the protrusions extending into locations of the protuberances that are projected from the plastic article", as recited in base Claims 1 and 21, as amended. In addition, neither Cornell nor David teaches or suggests "fins with a zigzag pattern", as recited in Claims 11 and 35. Fins with a zigzag pattern, such as depicted in FIG. 8, can be configured to provide greater surface area for faster cooling than obtained with straight horizontal or vertical fins. This is a feature that is not contemplated or suggested by either Cornell or David. Therefore, Claims 7, 10, 11, 31, 34 and 35 are in condition for allowance. Reconsideration is respectfully requested.

Watson discloses a terraced plant pot in FIG. 1 having walls of generally uniform thickness. FIG. 4 discloses that the radial inner wall 4 can be fluted in order to improve the load bearing capacity. Accordingly, Claims 8 and 32 are not obvious in view of Cornell, David and Watson since none of the references, alone or in combination, teaches or suggests "a projecting protuberance on the plastic article having (or of) a desired profile, at least some of the protrusions extending into locations of the protuberance that are projected from the plastic article", as recited in base Claims 1 and 21, as amended. Therefore, Claims 8 and 32 are in condition for allowance. Reconsideration is respectfully requested.

Hsia discloses a portable combination chair (FIG. 1) formed of planar interlocking pieces (FIG. 2). The chair in Hsia does not have any protuberances. Accordingly, Claims 12 and 36 are

not obvious in view of Cornell and Hsia since neither reference, alone or in combination, teaches or suggests "a projecting protuberance on the plastic article having (or of) a desired profile, at least some of the protrusions extending into locations of the protuberance that are projected from the plastic article", as recited in base Claims 1 and 21, as amended. Therefore, Claims 12 and 36 are in condition for allowance. Reconsideration is respectfully requested.

Chapman discloses a process for the melt extrusion of polymers through an extrusion die in which the extruding resin can contain mineral fillers. However, Claims 25 and 53 are not obvious in view of Cornell and Chapman since neither reference, alone or in combination, teaches or suggests "a projecting protuberance on the plastic article of a desired profile, at least some of the protrusions extending into locations of the protuberance that are projected from the plastic article", as recited in base Claim 21 and Claim 53. Therefore, Claims 25 and 53 are in condition for allowance. Reconsideration is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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